

QUARRE -- 10/728,197
Client/Matter: 044182-0307083

REMARKS

In the Office Action, claims 1-5, 7, 8, 10-15, 17, 18 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,332,031 to Kiga ("Kiga") in view of U.S. Patent Application No. (Pub. No. 2003/0097845) to Saunders et al. ("Saunders"). Claims 9 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kiga in view of Saunders and further in view of U.S. Patent No. 4,253,515 to Swiatosz (Swiatosz). The Office Action objects to claims 6 and 16 as being dependent upon a rejected base claim. Claims 1 and 11 are amended and claims 21-41 are added. Upon entry of this amendment, claims 1-41 will be pending.

Applicant respectfully asserts that the claims are patentable over the cited references. Even if successfully combined, Applicant respectfully asserts that the Examiner fails to meet the *prima facie* standard of obviousness because the combination of each prior art citation lacks elements of Applicant's claimed invention. These references, alone or in combination, do not teach or suggest every element recited, particularly in the amended claims.

The newly cited Saunders reference teaches the construction of a thermoelectric module (Saunders at paragraph 32). Two apparently parallel thermal conduction substrates are separated by a layer that includes thermoelectric elements. *Id.* These thermoelectric elements are surrounded by a thermal barrier that prevents heat transfer between the thermal conduction substrates. *Id.* Saunders teaches that, upon application of a directional current, this configuration can generate a thermal gradient by increasing temperature of one thermal conduction substrate and decreasing temperature of the other thermal conduction substrate (Saunders at paragraph 33). It is submitted that such a device would likely be more analogous to a thermoelectric cooling device than to the presently claimed thermally efficient CCD housing.

In the Office Action, Saunders is cited as rendering obvious the "mounting said transfer plate to a thermal barrier." Applicant respectfully submits that Saunders does not teach, suggest or render obvious mounting a transfer plate to a thermal barrier and further submits that one of reasonable skill in the art would not have looked to the construction of thermoelectric component in Saunders to resolve problems of CCD housing addressed by the present invention. Saunders does not teach or contemplate a transfer plate as recited in the present Application. The thermal conduction substrates taught in Saunders are operative elements of a thermoelectric cell; specifically, the substrates operate as either heat sources or heat sinks and neither operates as a transfer plate as recited in the claims. Saunders teaches a

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thermal barrier feature that mutual isolates the heat source and heat sink in the thermoelectric device but this feature cannot be said to teach the claimed thermal barrier on which a transfer plate is mounted.

Furthermore, a skilled artisan would not have been motivated to combine Saunders with Riga. Claim 1 of the present Application requires, *inter alia* the "mounting said transfer plate to a thermal barrier" while claim 11 requires that "said transfer plate mounted to a thermal barrier operative to prevent heat transfer between said thermoelectric cooling device and said housing." Claims 1 and 11 can operate to prevent heat from transferring from a thermoelectric device to a housing whereas Saunders merely teaches the prevention of heat transfer within the thermoelectric device. There would be no motivation to extend Saunders' thermal barrier externally from the thermoelectric device because such extension would necessarily limit use and application of Saunders thermoelectric device.

Nevertheless, Applicant has amended the independent claims to more clearly distinguish the claimed subject matter from the new art in the interests of furthering prosecution. In amending the claims, Applicant has added limitations that better demonstrate the structure of embodiments of the present invention and demonstrate relationships between the thermal barrier, a charge coupled device and the transfer element. For example, amended claim 1 requires that the thermal barrier defines a cavity, thermally isolated from the transfer plate and adapted to house the charge-coupled device. Amended claim 11 requires a housing including a thermal barrier and a cavity for mounting said charge-coupled device. These limitations are not taught in the art of record and are fully supported in the Specification and Drawings (*see, e.g.*, Specification at page 6, lines 6-14).

Allowable Matter and Claim Objections

Applicant thanks the Examiner for acknowledging the allowable subject matter of claims 6 and 16. Applicant believes that the amended claims are allowable and that no other amendment is required.

New Claims

Applicant has added claims 21-40. These claims are consistent with and fully supported by the Specification. No new matter is introduced.

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CONCLUSION

All objections and rejections having been addressed, and in view of the foregoing, the claims are believed to be in form for allowance, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

PILLSBURY WINTHROP SHAW PITTMAN LLP


ANTHONY G. SMYTH

Reg. No. 55,636

Tel. No. 858 509.4007

Fax No. 858 509.4010

Date: December 15, 2005
11682 El Camino Real
Suite 200
San Diego, CA 92130-2092
(619) 234-5000

CERTIFICATION UNDER 37 C.F.R. §§ 1.8 and/or 1.10*

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I hereby certify that, on the date shown below, this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, facsimile transmitted to the Patent and Trademark Office, (571) 273-8300.

Date: December 15, 2005


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SACHIKO Y. SNEDDEN

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* Only the date of filing (§ 1.8) will be the date used in a patent term adjustment calculation, although the date on any certificate of mailing or transmission under § 1.8 continues to be taken into account in determining timeliness. See § 1.703(f). Consider "Express Mail to Office to Addresser" (§ 1.10) or facsimile transmission (§ 1.64d) for the reply to be accorded the earliest possible filing date for patent term adjustment calculations.